IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| In Re Application of: | Karer et al. | Docket No.: | 0775/000003 |
| Serial No.: | 09/700,367 | Confirmation No.: | 6131 |
| Filing Date: | 11/15/2000 | Examiner: | HANDAL, KAITY V |
| Customer No.: | 26474 | Art Unit: | 1764 |

For: Gaseous phase fluidized-bed reactor

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants request review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reasons stated on the attached sheets.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account 14.1437. Please credit any excess fees to such account.

Table of Contents

Status of Claims:

- Claims 1 – 4, 6 – 8 and 10 – 23 are pending.
- Claims 11 – 15 have been withdrawn from consideration.
- Claims 1 – 4, 6 – 8 10 and 16 – 23 stand rejected.

Arguments

In this Advisory action, the Examiner has indicated that the rejection of claims 1, 2, 10, 16, 17 and 23 under 35 U.S.C. §102(e) over *Govoni et al.* (US 6,413,477) are withdrawn. However, the Examiner has maintained the rejections of:

I. Claims 1, 3, 4, 6, 10, 16, 18 – 20 and 23 under 35 U.S.C. §103(a) over *Govoni et al.* (US 6,413,477); and

II. Claims 7, 8, 21 and 22 under 35 U.S.C §103(a) over *Govoni et al.* in view of *Lubbock* (US 2,636,712).

The Examiner's argument that use of open transitional language "does not exclude a reference … having more elements than those recited[,]"[1] demonstrates that the Examiner has missed the thrust of Applicants' argument. Applicants' argument was that since no apparent reason existed to eliminate the second polymerization zone, no apparent reason existed to directly connect recycle line **6**, **36** or **81** to the first reactor. The Examiner has never even suggested that a skilled artisan would have found it obvious to directly connect recycle line **6**, **36** or **81** to the first reactor. The Examiner has ignored this limitation of the claims.

[1] Page 2 of the Advisory Action mailed October 31, 2007.

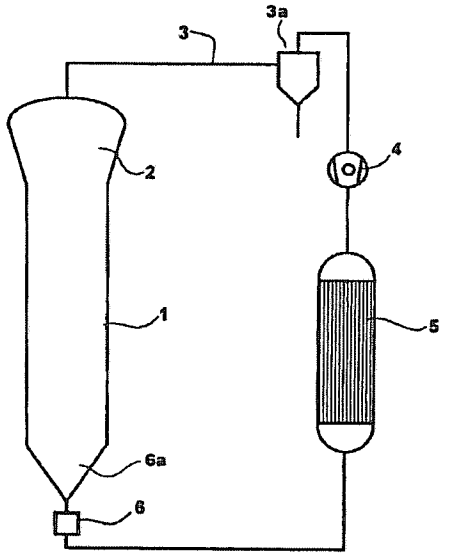
**The Claimed Invention**

Claim 1 is directed to a gas-phase fluidized-bed reactor. The reactor must comprise a single reactor chamber, a circulation gas line, a circulation gas compressor, and a cooling device. The single reactor chamber must not have an internal heat exchanger. The single reactor chamber must be in the form of a vertical tube. This vertical tube must have a region of transition in its lower section. The region of transition must be adapted for transitioning the reaction gas from a circulation gas line into the reactor chamber, and must be designed such that either no gas distributor plate is present, or such that a gas distributor plate is present in which gas orifices occupy more than 50% of the total surface area of the gas distributor plate. The lower section of the vertical tube must be followed by a reaction zone. The reaction zone of the vertical tube must be followed by a calming zone in the upper section of the tube.

Moreover, the claim requires the single reactor chamber, the circulation gas line, the circulation gas compressor, and the cooling device to be interconnected in a specific way. First, the circulation gas line must be adapted to convey a reaction gas from the calming zone of the single reactor having each feature discussed above to the region of transition of the same single reactor. Second, the circulation gas compressor and the cooling device must be sited in the circulation gas line. Third, the circulation gas line must be connected to the lower section of the reactor chamber. Finally, the circulation gas line must be directly connected to the upper section of the reaction chamber.

As illustrated in Fig. 1, the specification differentiates between two types of connections. A skilled artisan would understand that gas circulation line (**3**) is directly connected to the upper section of the reaction chamber, and connected (though not directly connected) to the single reaction chamber by virtue of the line's connection with components other than the reaction chamber.

FIG.1



**The *Govoni et al.* Reference**

*Govoni et al.* provide the following explanation referring to their Fig. 1. "The two polymerization zones [**1** and **2**] are appropriately interconnected by the sections **3** and **5**."[2] Moreover, "[t]he gaseous mixture leaving the separation zone **4** is compressed, cooled and transferred ... to the first polymerization zone **1**. This transfer can be effected by means of a recycle line **6** for the gaseous mixture, equipped with means for the compression **7** and cooling **8** ...."[3]

Fig. 1
US 6,413,477 B1

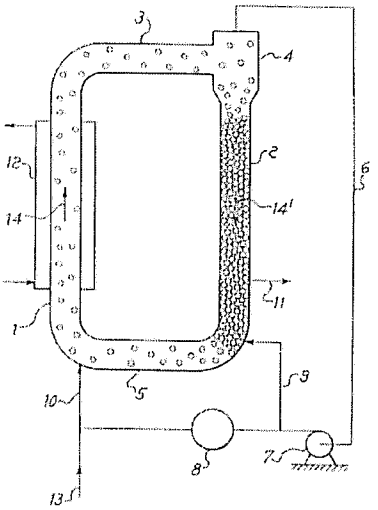
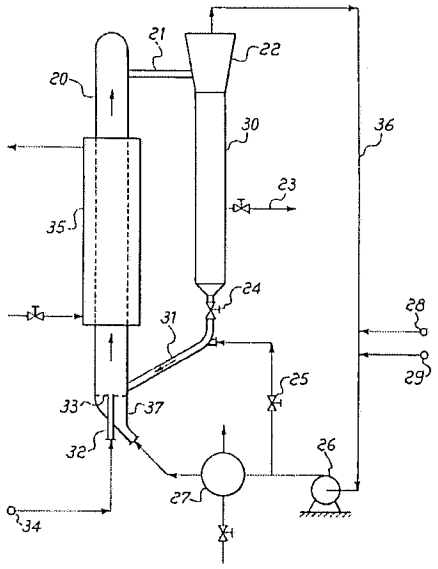



Fig. 2




A skilled artisan would understand that section **3** of Fig. 1 corresponds with lines **21** of Fig. 2, or with line **71** of Fig. 3. According to *Govoni et al.* lines **3**, **21** and **71** are not gas circulation lines, but are polymerization zone interconnecting lines adapted to facilitate discharge of polymer from the first reactor to the separator. A skilled artisan would never have confused these lines with the gas recycle lines (line **6**, line **36**, and line **81**). Thus, the Examiner's characterization of line **71** as a gas circulation line is erroneous. As stated in the written portion of the reference, "[t]he first line **21** can be horizontal or have a slope in the direction of gravity in order to facilitate discharge of polymer (see the configuration of the line **71** in FIG. 3)."[4] It should be clear that lines **21** and **71** are not gas circulation lines. Lines **36** and **81** are recycle lines. Lines **21** and **71** are adapted to facilitate discharge of polymer from the first reactor to the separator.

[2] Column 5, indicated lines 66 - 67 of Govoni et al. (US 6,413,477).
[3] Column 6, indicated lines 34 – 40 of Govoni et al. (US 6,413,477).
[4] Column 11, indicated lines 29 – 31 of Govoni et al. (US 6,413,477).

Line **3**, line **21**, and line **71** cannot be characterized as circulation gas lines. Thus, the reference does not teach or suggest all of the claim limitations.

Applicants note that the Examiner never suggested that a skilled artisan would have found it obvious to eliminate separator **4**, **22**, or **72**, and to directly connect recycle line **6**, **36** or **81** to the first reactor. Indeed, the Examiner had good reason not to make such a suggestion. *Govoni et al.* emphatically stress the importance of a circulation of polymer particles between two polymerization zones, stating, for example, that

> "[t]he process is characterized in that the growing polymer particles flow through the first of said polymerization zones under fast fluidization conditions, leave said first polymerization zone and enter the second of said polymerization zones through which they flow in a densified form under the action of gravity, leave said second polymerization zone and are reintroduced into said first polymerization zone, thus establishing a circulation of polymer between the two polymerization zones."[5]

Clearly, no apparent reason existed for a person of ordinary skill in the art to eliminate the second polymerization zone and thereby eliminate the circulation of polymer particles between two polymerization zones. Of course, if no apparent reason existed to eliminate the second polymerization zone, then no apparent reason existed to directly connect recycle line **6**, **36** or **81** to the first reactor. Such a modification would be nonsensical. The proposed modification, therefore, does not meet all of the limitations of claim 1. Claims 3, 4, 6, and 10 depend from claim 1. Independent claim 16 includes all of the pertinent features of claim 1. Claims 18 – 20 and 23 depend from claim 16. The rejection is in clear error and should be withdrawn.

The rejection of claims 7, 8, 21 and 22 under 35 U.S.C §103(a) over *Govoni et al.* in view of *Lubbock* (US 2,636,712) is also in clear error and should be withdrawn. The Examiner cites *Lubbock* in an attempt to compensate for the fact that "*Govoni et al.* fails to disclose a closable flap with holes at the region of transition...."[6] *Lubbock* does not compensate for the shortcomings discussed above, and therefore this rejection should also be withdrawn.

---

[5] Column 5, indicated lines 14 – 22 of Govoni et al. (US 6,413,477).
[6] Page 5, lines 1 – 2 of the final Office action mailed August 09, 2007.

In Conclusion:

The rejections are based on clear errors. Little, if any, interpretation of the claims or the references is required to conclude that the rejections should be withdrawn. The present application is in condition for allowance. Favorable action is respectfully requested. In order to facilitate the resolution of any issues or questions presented by this paper, please feel free to contact the undersigned by phone to further the discussion.

NOVAK DRUCE & QUIGG, LLP
1300 Eye St. N.W.
Suite 1000 West
Washington, D.C. 20005

Phone: (202) 659-0100
Fax: (202) 659-0105

Respectfully submitted,
NOVAK DRUCE & QUIGG, LLP

Michael P. Byrne
Registration No.: 54,015